

# The Passenger Loyalty of National Ships on the Routes Along the Java Sea, Indonesia

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## ABSTRACT

The purpose of this study to examine perceived value and complaint handling affect passenger satisfaction which, in turn, has an impact on passenger loyalty of some national ships with a capacity of 2,000 people. The problems that arise in the shipping on the routes along the Java Sea, Indonesia from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya, East Java are the decreasing number of ship's passengers in the period of 2010-2018 and the tight competition in the service industry of passenger ship transportation characterized by many emerging private companies which also provide passenger ship transportation services. This study also compares the condition of transportation services with the same route provided by train and air transports. The data analysis in this study uses the analysis method of Structural Equation Model (SEM) with the statistical program AMOS version 20. Using the probability sampling method with simple technique of random sampling, it is obtained the number of samples in this study carried out in July 2019 as many as 250 ship's passengers. The result of this study shows that the variable with the biggest influence on customer loyalty is passenger satisfaction.

**Keywords:** *Perceived Value, Complaint Handling, Satisfaction, Loyalty, Ship's Passengers*

## 1. INTRODUCTION

### 1.1. Background

Based on the data of passenger growth for the routes along the Java Sea, Indonesia from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya, East Java in the period of 2010-2018, it is known that there was a trend of decreasing number of service users during that period. The lowest number of passengers happened in 2017 reaching the level of 3,522 thousand passengers. This number decreased 4.80% compared with the previous year. However, based on the percentage of decrease in 2016 this was the most significant decrease compared with the previous year which reached 12.57%. This decrease may indicate the declining people interest to use the passenger ship service on Jakarta-Surabaya route. This decrease also indicates the decreasing loyalty of customers and/or users of passenger ship services. This may be seen from the number of passengers reaching 4,553 thousand people on average during the period of 2010-2015 which subsequently decreased to become 3,615 thousand people in the period of 2016-2018. This condition can be understood; the change from 4,553

thousand people to become 3,615 thousand people was also followed by the decreasing loyalty to use passenger ships on that route. Likewise, business competition is assumed to exist between sea transportation mode and other modes, such as land and air transportation modes. In the land transportation mode, Jakarta-Surabaya route is served by eight kinds of trains, namely Argo Bromo, Anggrek, Gaya Baru, Jayabaya, Bima, Sembrani, Kertajaya and Bangun Karta..

Based on the above description, the problems can be stated as follows; the tight competition in service industry of passenger ship transportation is characterized by many emerging private transportation companies providing passenger ship services. The declining performance of national shipping is characterized by the declining trend of the number of ship passengers in 2010-2018.

This study aims to determine the effect of perceived value and complaint handling on passenger loyalty mediated by the passenger satisfaction variable. Some of the aspects that most contribute to customer loyalty on PT Pelayaran Nasional Indonesia includes cognitive, affective, and psychometric factors as customer attitudes

to continue to commit to reusing a product or service consistently in the future.

**1.2. Literature review and hypothesis**

**1.1.1. Loyalty**

Consumer loyalty, according to [1], has four dimensions, namely: 1) cognitive loyalty or loyalty based on brand confidence; 2) affective loyalty or likeness toward brand based on opportunity to use satisfaction cumulatively; 3) conative loyalty which shows a condition of loyalty which contains whether the first appearance shows a deep commitment to buy; and 4) action loyalty, where intention is converted to action. Some research confirm how tacit knowledge about customers represents a resource able to promote customer loyalty [2]. To encourage customer loyalty related to marketing, according [3] to there must be interaction between the organization and customers.

The competition among the transportation modes serving Jakarta-Surabaya route, just like in land transportation services using intercity bus, affects the satisfaction as well as loyalty of passengers using sea transportation mode. Thus, customer loyalty can be synthesized as a customer's attitude to continue to commit to repurchase or the intention to reuse a product or service consistently in the future, with the variable dimensions of customer loyalty in this study, namely cognitive, and affective aspects.

**1.1.2. Complaint Handling**

Based on [4] that the satisfaction of the complaint shows the extent to which the complaint views the performance of complaint handling will meet his expectations. It is very important to handle each complaint carefully and communicate seriously with customers. Complaints handling involves strategies for resolving failures and how to avoid future failures. The effect of service in shipping handling consumer complaints is certainly to get benefits [5] [6].

Thus, complaint handling can be synthesized as the ability and willingness of the company to overcome problems quickly and accurately, with the variable dimensions of complaint handling in this study, namely the speed of handling complaints, satisfying problem resolution, and ease of filing complaints.

**1.1.3. Perceived Value**

Research conducted by two marketing experts from the University of Western Australia, [7] attempted to develop 19 items measuring customer perceived value. The scale, called PERVAL (Perceived Value), is intended to assess customer perceptions of the value of a customer's durable product at the brand level. The four dimensions of perceived value can be classified as different values, emotional value, social value, price value and performance / quality value [7]. For the future research and application of perceived value as being relevant to the service industry [8]. Thus, the perceived

value can be synthesized as an overall assessment of a product or service received so as to cause a sense of satisfaction with the product based on the difference between what is obtained with what has been given in obtaining the product or service, with the dimensions of the variable perceived value in this research that is emotional value, social value, price value and performance / quality value.

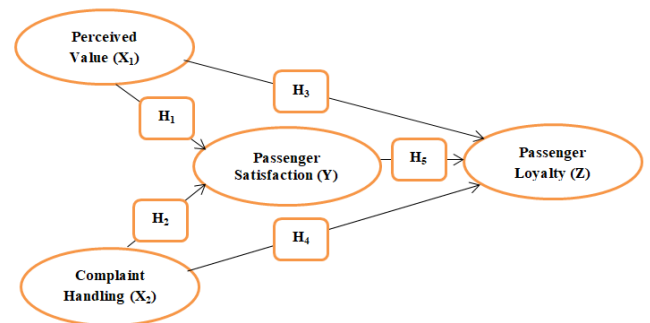
**1.1.4. Customer Satisfaction**

Customer satisfaction is a psychological reaction offered by previous experience with support between expected and received [9]. Also, research at the port explains that there is a very strong relationship between quality and service satisfaction [10]. The results showed differences in service characteristics that prioritize customer satisfaction; (1) customer service quality, (2) digitizing quality and (3) sales quality [11].

Thus, customer satisfaction can be synthesized as a feeling of pleasure someone who appears after using a product or service after comparing the perception / impression with the performance or benefits obtained. The dimensions of customer satisfaction variables in this study are attributes related to products, attributes related to service, and attributes related to service.

**1.3. Hypothesis**

Based on the relevant theoretical explanation and previous researches, the framework for the influence of perceived value and complaint handling on passenger satisfaction and, in turn, on passenger loyalty is made in a research constellation as in Figure 1.



**Figure 1.** Conceptual Framework Research Method

**Hypothesis**

- H1: Perceived Value (X<sub>1</sub>) significantly and positively affects Passenger Satisfaction (Y).
- H2: Complaint Handling (X<sub>2</sub>) significantly and positively affects Passenger Satisfaction (Y).
- H3: Perceived Value (X<sub>1</sub>) significantly and positively affects Passenger Loyalty (Z).
- H4: Complaint Handling (X<sub>2</sub>) significantly and positively affects Passenger Loyalty (Z).
- H5: Passenger Satisfaction (Y) significantly and positively affects Passenger Loyalty (Z).
- H6: Passenger Satisfaction (Y) mediates the influence of Perceived Value (X<sub>1</sub>) on Passenger Loyalty (Z).

H7: Passenger Satisfaction (Y) mediates the influence of Complaint Handling (X2) on Passenger Loyalty (Z).

**2. METHODS**

Data analysis in this study uses the analysis method of Structural Equation Model (SEM) with statistical program AMOS version 20. While in the field the researchers firstly ask the prospective respondents concerning how many times they have used the route service of Tanjung Priok Port Jakarta – Tanjung Perak Port Surabaya up to that time. The questionnaire is distributed only to the respondents who have used the service more than once. The size of sample as many as 30 to 500 has been sufficient for a research. SEM analysis needs 100-300 samples for the technique of Maximum Likelihood Estimation [12].

It is known that the number of passengers for the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya is infinite. Therefore, the population in this research is taken from the number of passengers during the month of July 2019 as many as 688 passengers from six ships, namely MV. Nggapulu, MV. Dorolonda, MV. Dempo, MV. Umsini, MV. Ciremai, MV. Dobonsolo. The number of samples in this study carried out in July 2019 as many as 250 ship’s passengers.

**3. RESULTS AND DISCUSSION**

**3.1. Results of Confirmatory Factor Analysis**

Confirmatory factor analysis is a further technique of factor analysis where the testing of factor loadings structure and its intercorrelation is carried out. The output of CFA can be seen in Figure 2.

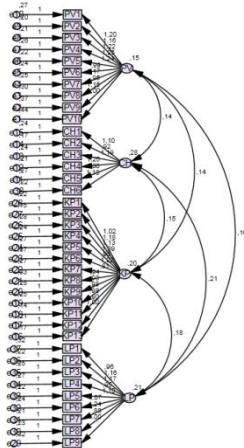


Figure 2 Output of CFA Model

Sources: result of data processing using amos version 20 (2019).

The validity test in this study uses convergent validity test that is testing the constructs (indicators) whether or not they have high proportion of variance. They fulfill the criteria if “loading factor” or “standardized loading estimate” > 0.5 [13]. The result of testing shows that all the indicators used to measure such variables as

perceived value, complaint handling, passenger satisfaction, and passenger loyalty are valid. This is because the value of loading factor got by all the indicators are bigger than 0.5.

**3.2. Hypothetical Testing**

Based on the testing result, Structural Equation Modeling is obtained by testing the influence of the variables of perceived value, complaint handling, and passenger satisfaction on passenger loyalty (Figure 3).

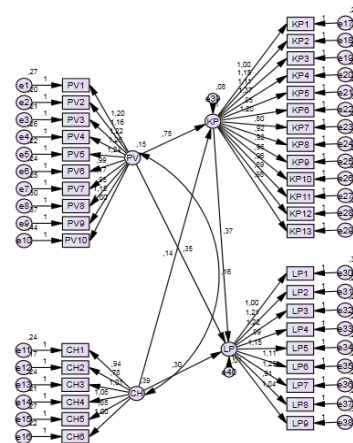


Figure 3 Research Model of Model Analysis Result

Subsequently, based on Figure 3, hypothetical analysis can be done by seeing the CR (Critical Ratio) value in the table of AMOS output of Regression Weights (Table 1).

Table 1 Hypothetical Testing (Regression Weights)

		Est.	C.R.	P
Passenger Satisfaction	← Perceived Value	.750	5.889	***
Passenger Satisfaction	← Complaint Handling	.145	2.714	.007
Passenger Loyalty	← Perceived Value	.352	4.360	***
Passenger Loyalty	← Complaint Handling	.299	7.214	***
Passenger Loyalty	← Passenger Satisfaction	.365	5.805	***

Sources: Result of data processing using AMOS Version 20 (2019)

In order to know whether the relationship among variables is significant or not, the value of Critical Ratio (CR) must be bigger than 1.960. In the five hypotheses with the data as in Table 2, the resulted value of t is bigger than the value of t table at the level 5%, which is ± 1.960, with CR is 2.714 to 7.214 thus the relationship among variables is significant.

### ***3.3. Perceived Value significantly and positively affects Passenger Satisfaction***

Based on the first hypothesis shows that perceived value is proven to affect the satisfaction of ship's passengers on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. This result is supported by the obtained value of CR which is bigger than 1.96 ( $5.889 > 1.96$ ) with p-value 0.000 smaller than 0.05. Subsequently, the estimated value obtained is 0.750. These values show that perceived value has positive relationship with passenger satisfaction as big as 0.750. This also confirms that that perceived value is the main factor to obtain competitive advantage for business success because perceived value is the users' whole assessment of the delivered service based on what is received and what is provided.

The measurement of passenger satisfaction must be accompanied with the measurement of perceived value in order to more understand the perception of passengers. The result of this research supports the researches done by [14]. They showed the value received was an important factor in assessing customer satisfaction. The perception value influences their satisfaction positively.

### ***3.4. Complaint Handling significantly and positively affects Passenger Satisfaction***

Based on the second hypothesis shows that complaint handling is proven to affect the satisfaction of ships' passengers on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. This result is supported by the value of CR which is bigger than 1.96 ( $2.714 > 1.96$ ) with p-value 0.007 smaller than 0.05. Then the estimated value is found 0.145. This value shows complaint handling has a positive relationship with passenger satisfaction which is as big as 0.145. The result of this research shows that the existence of complaint handling in the passenger ship service at Nusantara Passenger Terminal affects the level of passenger satisfaction on the route of Tanjung Priok Port Jakarta – Tanjung Perak Port Surabaya. Complaint management is very important for the success of a business since it influences the relationship between a company and its customers.

Hypothesis testing by [15] results prove the hypothesis is approved, namely the handling of positive complaints on customer satisfaction. Another research informed that the most effective complaint handling is to avoid losing dissatisfied customers [16].

### ***3.5. Perceived Value significantly and positively affects Passenger Loyalty***

Based on the third hypothesis shows that perceived value is proven to affect passenger loyalty on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. This result is supported by the value of CR which is found bigger than 1.96 ( $4.360 > 1.96$ ) with p-value 0.000 smaller than 0.05. Then estimated value is found as big as 0.352. This value shows that perceived

value has a positive relationship with passenger loyalty as big as 0.352. Based on the data of passenger growth in the period of 2010-2018, the importance of perceived value as the factor which generates passenger loyalty is due to the trend of declining number of service users.

Based on the percentage, the decrease in 2016 was more significant than the year before with the decrease reaching 12.57%. This decrease can indicate the decreasing interest of people to use passenger ship services. It also indicates that decreasing passenger loyalty and/or number of passenger ship service users have happened.

### ***3.6. Complaint Handling significantly and positively affects Passenger Loyalty***

Based on the fourth hypothesis indicates that complaint handling is proven to affect passenger loyalty on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. This result is supported by the value of CR obtained bigger than 1.96 ( $7.214 > 1.96$ ) with p-value 0.000 smaller than 0.05. This value indicates that complaint handling has positive relationship with passenger loyalty as big as 0.299. The result of this research supports the study done by [17], which shows that complaint handling has significant influence on customer loyalty.

The roles of five drivers of loyalty: the level of customer use, service prices, service quality, program loyalty, and satisfaction with complaint handling [18]. Complaints by consumers are both challenges and opportunities.

### ***3.7. Passenger Satisfaction significantly and positively affects Passenger Loyalty***

Based on the fifth hypothesis shows it is proven that passenger satisfaction affects passenger loyalty on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. This result is supported by the obtained value CR which is bigger than 1.96 ( $5.805 > 1.96$ ) with p-value 0.000 smaller than 0.05. This value indicates that passenger satisfaction has positive relationship with passenger loyalty as big as 0.365. The result of this research indicates that with the satisfaction perceived by customers or passengers, it can enhance the passenger loyalty to use passenger ship's services on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. So there will be a desire to keep and/or continue using the services of passenger ships on that route. Empirical survey results by [19] at Keelung Port, Taiwan show that customer satisfaction has a positive impact on customer loyalty. On the marine transportation, positive and significant customer satisfaction on customer loyalty [20].

### **3.8. Passenger Satisfaction mediates the influence of Perceived Value on Passenger Loyalty**

Based on the sixth hypothesis examines the mediating role of passenger satisfaction to the influence of perceived value on passenger loyalty. Through sobel test it is known that the statistic coefficient of sobel test is 4.135 bigger than 1.98 with significance level of 5% and the value of one-tailed probability  $0.00001769 < \alpha 0.05$  (5%). Thus, passenger satisfaction can mediate the influence of perceived value on passenger loyalty. With the increasingly better perceived value, consumers will be loyal so that they are willing to recommend other people to become consumers, encourage other people to do business with the same company.

Perceived value and customer satisfaction also indirectly affect customer loyalty through mediation [21];[22]. Stating that there is a positive influence of customer value on customer loyalty through customer satisfaction.

### **3.9. Passenger Satisfaction Mediates The Influence of Complaint Handling on Passenger Loyalty**

Based on the seventh hypothesis examines the mediating role of passenger satisfaction to the influence of complaint handling on passenger loyalty. Through sobel test it is known that the statistic coefficient of sobel test is 2.473 bigger than 1.98 with the significance level of 5% and the value of one-tailed probability  $0.00668245 < \alpha 0.05$  (5%). Thus, passenger satisfaction can mediate the influence of complaint handling on passenger loyalty. Complaint handling is one of the supporting factors which make passengers feel satisfied when using the services on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya. In the other words, passengers will be loyal if they feel satisfied with the complaint handling while they are using the ship's services on the route of Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya.

Based on the calculation from sobel test, it can be known that perceived value variable has the total influence on passenger loyalty as big as 0.626, whereas complaint handling has the total influence on passenger loyalty as big as 0.352. This indicates that perceived value has a more dominant total influence on the creation of passenger loyalty on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya.

## **4. CONCLUSION**

Based on the result of this research, the variable with the biggest influence on customer loyalty is passenger satisfaction. Increasing passenger satisfaction is one of the most important things to enhance passenger loyalty. In addition, the value of CR (Critical Ratio) or significance which is resulted from the influence of complaint handling on passenger loyalty is bigger. This

explains that if the services provided by the shipping lines on the route from Tanjung Priok Port Jakarta to Tanjung Perak Port Surabaya cannot meet the passenger expectation, then the passengers will stay loyal if the complaint handling that they perform is well responded.

## **AUTHORS' CONTRIBUTIONS**

Prasadjia Ricardianto, as a Research Coordinator and Corresponding author. Bobby Bimantara, as a Methods Researcher. Honny Fiva Akira Sembiring as a Substantial Researcher. Lis Lesmini, as a Managing Editor. Mustika Sari, as a Proof Reader.

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